EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Iver Cooper on February 15, 2011.

The application has been amended as follows:

IN THE SPECIFICATION:

Insert on page 65, after line 13, the following new paragraphs:

Fig. 8 shows a template linked to a solid support. The anti-codons of the building blocks are hybridised to the template without being covalently linked to said template. The anti-codons are then ligated and the template and building blocks are physically separated. Then the chemical entities are reacted to form an encoded small molecule.

Fig. 9 shows a template comprising a hairpin loop and building blocks. The anti-codons of the building blocks are ligated and the template degraded by using nuclease. Then the chemical entities are reacted on the identifier polynucleotide to form an encoded small molecule.

Fig. 10. (A) shows a template comprising a hairpin loop associated with a chemical entity. A building block is ligated thereto and the chemical entities of the template and building block are reacted on the identifier polynucleotide. Another building block comprising a chemical entity is then hybridized to the identifier oligonucleotide and the building block and identifier oligonucleotide are ligated. In (B), codons and anti-codons are separated and the chemical entities are reacted.

Fig. 11. (A) shows a building block immobilised to a solid support. A connector polynucleotide and a second building block are added. Then the building block oligonucleotides are ligated. The connector polynucleotide is displaced from the ligated building blocks. In (B), the chemical entities are reacted and a further building block is added with a further connector. Then the building block oligonucleotides are ligated and separated from the further connector. In (C), the chemical entities are reacted. The process may be repeated by adding an even further connector and building block.

Fig. 12. In (A) a hybridisation complex comprising building blocks and connector oligonucleotides is generated. One of the connectors is immobilised to a solid support. The building blocks are then ligated and the ligated building blocks are separated from the connectors. The connectors may optionally be ligated. In (B) the chemical entities are reacted to form a bifunctional complex.

Fig. 13 is a mass spectrogram (SNJ45 +32 -270103.d:-MS, 3.8-7.1 min (#26-#50)) of ligation products, including SEQ ID NO: 5, with the following labeled peaks: 22(A):842.5, 21(A):882.7, 20(A):927.0, 19(A):975.8, 18(A):1030.1, 17(A):1090.7, 16(A):1159.0, 15(A):1236.3, 14(A):1324.6, and 13(A):1426.5 m/z.

Fig. 14 is a mass spectrogram (SNJ-45+32+33-070203.d: -MS, 3.7-8.5 min (#22-#58)) relating to SEQ ID NO:6, with the following labeled peaks: 22(A):944.6, 20(B):1040.2, 19(A):1093.8, m/z.

Fig. 15 is a mass spectrogram (SNJ45+32+39+33-270103.d: -MS, 3.7-6.6 min (#26-#47)) with the following labeled peaks: 25(A):917.6, 24(A):955.9, 23(A):997.5, 21(A):1092.6, 20(A):1147.3, 17(A):1349.8, 16(A):1434.2, 15(A):1529.9 m/z.

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance: The closest prior art is exemplified by Liu et al. (US 2003/0113738A1). In the prior art method, the anti-codons of the transfer units are hybridized to the template during reaction of the reactive units and continued hybridization between the template and the transfer units must occur for the reaction to proceed. There is no teaching or suggestion in the prior art of ligating, or otherwise covalently linking, the

anti-codons of the building blocks and carrying out the reaction wherein the template is separated from the anti-codons of the building blocks hybridized thereto prior to the reaction of the chemical entities of the individual building blocks.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heather G. Calamita whose telephone number is 571.272.2876 and whose e-mail address is heather.calamita@uspto.gov. However, the office cannot guarantee security through the e-mail system nor should official papers be transmitted through this route. The examiner can normally be reached on Monday through Thursday, 7:00 AM to 5:30 PM.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Gary Benzion can be reached at 571.272.0782.

Papers related to this application may be faxed to Group 1637 via the PTO Fax Center using the fax number 571.273.8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to 571.272.0547.

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/Heather Calamita/

Primary Examiner, Art Unit 1637